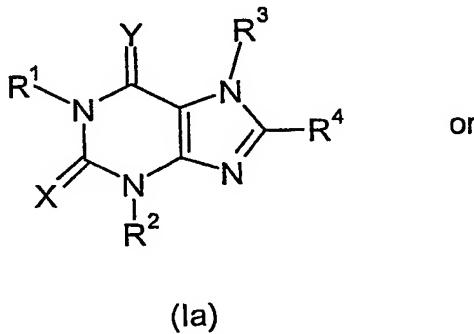
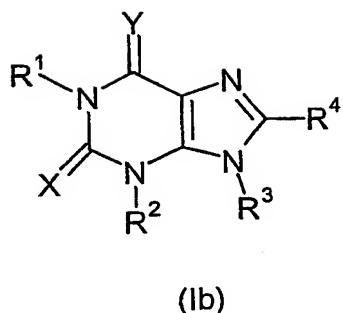


Claims

1. Use of a compound of formula (Ia) or (Ib)



or



5

wherein:

one of X and Y represents S, and the other represents O or S;

R¹ represents hydrogen or C1 to 6 alkyl;10 R² represents hydrogen or C1 to 6 alkyl; said alkyl group being optionally substituted by:

i) a saturated or partially unsaturated 3- to 7-membered ring optionally incorporating one or two heteroatoms selected independently from O, N and S, and optionally incorporating a carbonyl group; said ring being optionally substituted by one or more substituents selected from halogen, hydroxy, C1 to 6 alkoxy and C1 to 6 alkyl; said alkyl being optionally

15 further substituted by hydroxy or C1 to 6 alkoxy; or

ii) C1 to 6 alkoxy; or

iii) an aromatic ring selected from phenyl, furyl or thienyl; said aromatic ring being optionally further substituted by halogen, C1 to 6 alkyl or C1 to 6 alkoxy;

R³ and R⁴ independently represent hydrogen or C1 to 6 alkyl;

20 or a pharmaceutically acceptable salt thereof, in the manufacture of a medicament, for the treatment or prophylaxis of diseases or conditions in which inhibition of the enzyme MPO is beneficial.

25 2. The use according to Claim 1 wherein the disease or condition is a neuroinflammatory disorder.

3. The use according to Claim 1 or Claim 2 wherein X represents S and Y represents O.

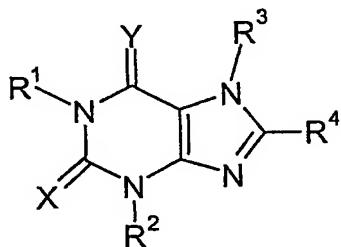
4. The use according to any one of Claims 1 to 3 wherein R³ represents H.

5. The use according to any one of Claims 1 to 4 wherein R² represents optionally substituted C1 to 6 alkyl.

6. The use according to any one of Claims 1 to 5 wherein R⁴ represents H.

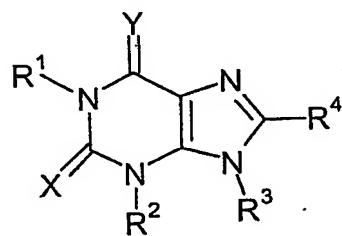
10 7. A pharmaceutical formulation comprising a therapeutically effective amount of a compound of formula (Ia) or (Ib), according to Claim 1, or a pharmaceutically acceptable salt thereof, in admixture with a pharmaceutically acceptable adjuvant, diluent or carrier, for use in the treatment or prophylaxis of neuroinflammatory disorders.

15 8. A compound of formula (Ia) or (Ib)



(Ia)

or



(Ib)

20 wherein:

X represents S, and Y represents O;

R¹ represents hydrogen or C1 to 6 alkyl;

R² represents C1 to 6 alkyl substituted by a saturated or partially unsaturated 3- to 7-membered ring optionally incorporating one or two heteroatoms selected independently from O, N and S, and optionally incorporating a carbonyl group; said ring being optionally

25 from O, N and S, and optionally incorporating a carbonyl group; said ring being optionally

substituted by one or more substituents selected from halogen, hydroxy, C1 to 6 alkoxy and C1 to 6 alkyl; said alkyl being optionally further substituted by hydroxy or C1 to 6 alkoxy;

R³ and R⁴ independently represent hydrogen or C1 to 6 alkyl;

5 or pharmaceutically acceptable salts thereof.

9. A compound of formula (Ia) or (Ib) which is:

1,3-diisobutyl-8-methyl-6-thioxanthine;

1,3-dibutyl-8-methyl-6-thioxanthine;

10 3-isobutyl-1,8-dimethyl-6-thioxanthine;

3-(2-methylbutyl)-6-thioxanthine;

3-isobutyl-8-methyl-6-thioxanthine;

3-isobutyl-2-thioxanthine;

3-isobutyl-2,6-dithioxanthine;

15 3-isobutyl-8-methyl-2-thioxanthine;

3-isobutyl-7-methyl-2-thioxanthine;

3-cyclohexylmethyl-2-thioxanthine;

3-(3-methoxypropyl)-2-thioxanthine;

3-cyclopropylmethyl-2-thioxanthine;

20 3-isobutyl-1-methyl-2-thioxanthine;

3-(2-tetrahydrofuryl-methyl)-2-thioxanthine;

3-(2-methoxy-ethyl)-2-thioxanthine;

3-(3-(1-morpholinyl)-propyl)-2-thioxanthine;

3-(2-furyl-methyl)-2-thioxanthine;

25 3-(4-methoxybenzyl)-2-thioxanthine;

3-(4-fluorobenzyl)-2-thioxanthine;

3-phenethyl-2-thioxanthine;

(+)-3-(2-tetrahydrofuryl-methyl)-2-thioxanthine;

(-)-3-(2-tetrahydrofuryl-methyl)-2-thioxanthine;

30 3-n-butyl-2-thioxanthine;

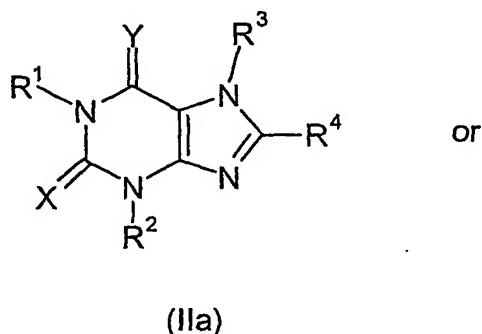
or a pharmaceutically acceptable salt thereof.

10. The use of a compound according to Claim 8 or Claim 9 as a medicament.

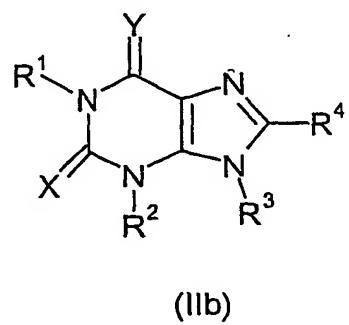
5 11. A pharmaceutical composition comprising a compound of formula (Ia) or (Ib) according to Claim 8 or Claim 9, or a pharmaceutically acceptable salt thereof, in admixture with a pharmaceutically acceptable adjuvant, diluent or carrier.

10 12. A process for the preparation of a compound of formula (Ia) or (Ib), as defined in Claim 8 or in Claim 9, or a pharmaceutically acceptable salt, enantiomer, diastereomer or racemate thereof, wherein the process comprises:

(a) reaction of a compound of formula (IIa) or (IIb)



or



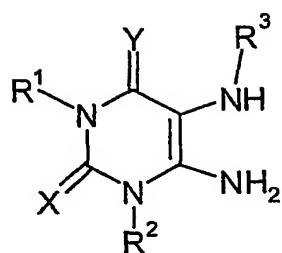
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wherein R¹, R², R³ and R⁴ are as defined in Claim 1; X represents O or S; and Y represents O;

with a sulphurising compound such as Lawesson's reagent or phosphorus pentasulphide;

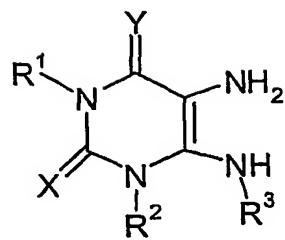
20 to give a corresponding compound wherein Y represents S; or

(b) reaction of a diamine of formula (IIIa) or (IIIb)



(IIIa)

or



(IIIb)

wherein R¹, R², R³, X and Y are as defined in Claim 1;

5 with formic acid or with a trialkylorthoester;

and where necessary converting the resultant compound of formula (Ia) or (Ib), or another salt thereof, into a pharmaceutically acceptable salt thereof; or converting the resultant compound of formula (Ia) or (Ib) into a further compound of formula (Ia) or (Ib); and where desired

10 converting the resultant compound of formula (Ia) or (Ib) into an optical isomer thereof.